

IN THE CLAIMS:

1-46. (Canceled)

47 (new). A method of treating hormone dependant cancers and other proliferative disorders, said method comprising the step of administering to a subject in need thereof, a therapeutically effective amount of an estrogen receptor β (ER β) modulator.

48 (new). The method of claim 47, wherein the ER β modulator either antagonizes or agonizes ER β .

49 (new). The method of claim 47, wherein the ER β modulator is an ER β agonist.

50 (new). A method of treating hormone dependant cancers and other proliferative disorders, said method comprising the step of administering to a subject in need thereof, a therapeutically effective amount of 7-hydroxylated steroids and/or enzymes capable of catalyzing the production of a 7-hydroxylated steroid.

51 (new). The method of claim 50, wherein the 7-hydroxylated steroids are 7 α -hydroxylated steroids and/or 7 β -hydroxylated steroids.

52 (new). The method of claim 50, wherein the 7-hydroxylated steroids are selected from the group consisting of;

- i) 7 α -hydroxy-DHEA (7DH),
- ii) 7 α -hydroxy-pregnenolone,
- iii) 7 α -hydroxy- β -estradiol,
- iv) 7 α ,3 β ,17 β -androstetriol,
- v) 7 α ,3 β ,17 β -androstetriol,

- vi) 7α -hydroxycholesterol,
- vii) 7α -25-hydroxycholesterol,
- viii) 7α -24-hydroxycholesterol,
- ix) 7α -27-hydroxycholesterol and
- x) other 7α -di-hydroxy and 7α -multi-hydroxylated forms of cholesterol.

53 (new). The method of claim 50, wherein the 7-hydroxylated steroids and/or enzymes capable of catalysing the production of a 7-hydroxylated steroid are administered in association with a pharmaceutically acceptable carrier or diluent.

54 (new). The method of claim 50, wherein the 7-hydroxylated steroids and/or enzymes capable of catalysing the production of a 7-hydroxylated steroid are directly or locally administered to the prostate and/or breast.

55 (new). The method of claim 50, wherein the hormone dependant cancer is prostate cancer or breast cancer.

56 (new). The method of claim 50, wherein the proliferative disorder is a disorder of the prostate or breast.

57 (new). The method of claim 56, wherein the disorder of the prostate is a disorder of prostate development or prostate ageing.

58 (new). The method of claim 56, wherein the disorder of the prostate is benign prostatic hyperplasia (BHP) and/or prostatitis.

59 (new). The method of claim 50, wherein the enzyme that produces 7-hydroxylated steroids is oxysterol 7α -hydroxylase (CYP7B).

60 (new). The method of claim 50, wherein the enzyme capable of catalyzing the production of a 7-hydroxylated steroid is modified.

61 (new). The method of claim 60, wherein the enzyme capable of catalyzing the production of a 7-hydroxylated steroid is modified to improve substrate affinity.

62 (new). The method of claim 50, wherein the enzyme capable of catalyzing the production of a 7-hydroxylated steroid is recombinantly or synthetically produced.

63 (new). The method of claim 50, wherein the 7-hydroxylated steroid is provided by contacting an enzyme capable of catalyzing the production of said 7-hydroxylated steroid or a cell comprising an enzyme capable of catalyzing the production of said 7-hydroxylated steroid, with a suitable substrate.

64 (new). The method of claim 63, wherein the cell is transformed with a vector containing a gene encoding an enzyme capable of catalyzing the production of said 7-hydroxylated steroid.

65 (new). The method of claim 63, wherein the suitable substrate is selected from the group consisting of;

- i) dehydroepiandrosterone (DHEA),
- ii) 3β -androstanediol,
- iii) 3β -androstenediol; and
- iv) β -estradiol

66 (new). The method of claim 50, wherein the enzyme capable of catalyzing the production of a 7-hydroxylated steroid is provided by means of a nucleic acid encoding said

enzyme.

67 (new). The method of claim 66, wherein the nucleic acid is contained within a nucleic acid vector.

68 (new). The method of claim 66, wherein the nucleic acid encodes oxysterol 7 α -hydroxylase (CYP7B).

69 (new). A method of detecting either a level of a 7-hydroxylated steroid or a level of an enzyme capable of catalyzing the production of a 7-hydroxylated steroid or detecting a mutation in a sequence encoding an enzyme capable of catalyzing the production of a 7-hydroxylated steroid, wherein the method comprises the steps of;

- a) providing a sample from a patient;
- b) detecting a level of 7-hydroxylated steroid or an enzyme capable of catalyzing the production of a 7-hydroxylated steroid or ascertaining the sequence of the nucleic acid encoding said enzyme; and
- c) comparing said detected level or the sequence of said nucleic acid with a normal level or sequence.

70 (new). The method according to claim 69 for use in detecting the efficacy of a drug used to treat hormone dependant cancers and other proliferative disorders.

71 (new). The method of claim 69 for use in ascertaining the stage of a tumor.

72 (new). The method of claim 69, wherein the patient is either a healthy person, a person suspected of having, predisposed to developing, or suffering from a hormone dependant cancers or other proliferative disorder.

73 (new). The method of claim 69, wherein the sample is a biopsy or a body fluid.

74 (new). The method of claim 73, wherein the biopsy is a prostate biopsy or breast tissue biopsy.

75 (new). The method of claim 73, wherein the body fluid is selected from the group consisting of

- i) blood;
- ii) urine; and/or
- iii) semen.

76 (new). The method of claim 69, wherein the normal sequence encodes a functional enzyme capable of catalyzing the production of a 7-hydroxylated steroid.

77 (new). The method of claim 69, wherein the normal sequence is a sequence that does not comprise a mutation which effects the expression of said functional enzyme.

78 (new). The method of claim 69, wherein the level of 7-hydroxylated steroid or an enzyme capable of catalyzing the production of a 7-hydroxylated steroid is detected by means of immunological detection techniques.

79 (new). The method of claim 78, wherein the level of 7-hydroxylated steroid or an enzyme capable of catalyzing the production of a 7-hydroxylated steroid is detected by ELISA or Western blot.

80 (new). The method of claim 69, wherein the level of an enzyme capable of catalyzing the production of a 7-hydroxylated steroid is detected by PCR and associated techniques, for example RT-PCR, quantitative PCR and quantitative RT-PCR.

81 (new). The method of claim 69, wherein the level of an enzyme capable of catalyzing the production of a 7-hydroxylated steroid is detected by spectrophotometric and enzymatic reactions

82 (new). A method of detecting a 7-hydroxylated steroid or an enzyme capable of catalyzing the production of a 7-hydroxylated steroid in a patient, comprising administering to a patient an amount of a molecule capable of interacting with a 7-hydroxylated steroid or an enzyme capable of catalyzing the production of a 7-hydroxylated steroid and detecting any complex comprising said molecule and said 7-hydroxylated steroid or enzyme capable of catalyzing the production of a 7-hydroxylated steroid.

83 (new). The method of claim 82, wherein the molecule capable of interacting with a 7-hydroxylated steroid or an enzyme capable of catalyzing the production of a 7-hydroxylated steroid is an antibody.

84 (new). The method of claim 82, wherein the molecule or antibody further comprises a radiolabel or a radioactive isotope.

85 (new). A method for identifying agents capable of modulating the activity of an enzyme capable of catalyzing the production of a 7-hydroxylated steroid, wherein said assay comprises the steps of:

- a) contacting an agent with a prostate cell comprising an enzyme capable of catalyzing the production of a 7-hydroxylated steroid, in the presence of a substrate capable of being converted to a 7-hydroxylated steroid by said enzyme; and
- b) detecting an amount of substrate converted to a 7-hydroxylated steroid by said enzyme and comparing said level to a normal level.

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86. Use of agents identified by the method of claim 85 for the treatment and/or prevention of hormone dependant cancers and other proliferative disorders.